

CLAIMS

1. A network adapter that may be used to interface to a network environment a
data storage system input/output (I/O) controller, the controller residing in a first
5 network data storage system, the network environment being external to the network
data storage system, the adapter comprising:

one or more interfaces that may be used to couple the adapter to the controller
via a backplane in the first data storage system;

a switching system that may be coupled to data exchanging devices in the
10 network environment, the switching system being coupled to the controller when the
one or more interfaces couple the adapter to the controller; and

port circuitry that may be used to facilitate establishment of a link between the
first network data storage system and a second network data storage system in the
network environment, the second network data storage system being remote from the
15 first network data storage system, the link, when established, facilitating
establishment of a target device in the second network data storage system as a data
mirroring device that may comprise a mirror of data residing in a source device in the
first network data storage system.

20 2. The adapter of claim 1, wherein the switching system comprises a fibre
channel switching fabric.

3. The adapter of claim 1, wherein the adapter is an electrical circuit card that is configured to be electrically and mechanically coupled to the backplane.

4. A circuit card configured to be inserted into and received by a circuit card slot
5 in a first network data storage system, the card comprising:

one or more interfaces that may be coupled via signal transmission system of the first network data storage system to an input/output (I/O) controller of the first network data storage system when the card is inserted into the slot;

a switch that may be coupled to data exchanging devices external to the card
10 and the first network data storage system, and that may be coupled to the controller when the card is inserted into the slot; and

port circuitry that may be used to facilitate establishment of a link between the first network data storage system and a second network data storage system, the link, when established, facilitating data transmission from a source device to a target
15 device, the source device being in the first network data storage system, the target device being in the second network data storage system and being used to mirror data residing in the source device.

5. The circuit card of claim 4, wherein the switch is fibre channel switch.

6. The circuit card of claim 4, wherein the source device and the target device
20 comprise respective logical data volumes.

7. The adapter of claim 1, wherein the source device and the target device
comprise respective logical data volumes.

8. The circuit card of claim 4, wherein the second network data storage system is
5 geographically remote from the first network data storage system.

9. A method of using a network adapter that may be used to interface to a
network environment a data storage system input/output (I/O) controller, the
controller residing in a first network data storage system, the network environment
10 being external to the network data storage system, the adapter including one or more
interfaces, a switching system, and port circuitry, the method comprising:

coupling the one or interfaces to the controller via a backplane in the first data
storage system;

coupling the switching system to data exchanging devices in the network
15 environment, the switching system being coupled to the controller when the one or
more interfaces couple the adapter to the controller; and

using the port circuitry to facilitate establishment of a link between the first
network data storage system and a second network data storage system in the network
environment, the second network data storage system being remote from the first
20 network data storage system, the link, when established, facilitating establishment of
a target device in the second network data storage system as a data mirroring device
that may comprise a mirror of data residing in a source device in the first network
data storage system.

10. The method of claim 9, wherein the switching system comprises a fibre channel switching fabric.

5 11. The method of claim 9, wherein the adapter is an electrical circuit card that is configured to be electrically and mechanically coupled to the backplane.

12. A method of using a circuit card configured to be inserted into and received by a circuit card slot in a first network data storage system, the card including one or
10 more interfaces, a switch, and port circuitry, the method comprising:

coupling the one or more interfaces via signal transmission system of the first network data storage system to an input/output (I/O) controller of the first network data storage system when the card is inserted into the slot;

coupling the switch to data exchanging devices external to the card and the
15 first network data storage system, and switch also being coupled to the controller when the card is inserted into the slot; and

using the port circuitry to facilitate establishment of a link between the first network data storage system and a second network data storage system, the link, when established, facilitating data transmission from a source device to a target
20 device, the source device being in the first network data storage system, the target device being in the second network data storage system and being used to mirror data residing in the source device.

13. The method of claim 12, wherein the switch is fibre channel switch.

14. The method of claim 12, wherein the source device and the target device
comprise respective logical data volumes.

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15. The method of claim 9, wherein the source device and the target device
comprise respective logical data volumes.

16. The method of claim 12, wherein the second network data storage system is
10 geographically remote from the first network data storage system.

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